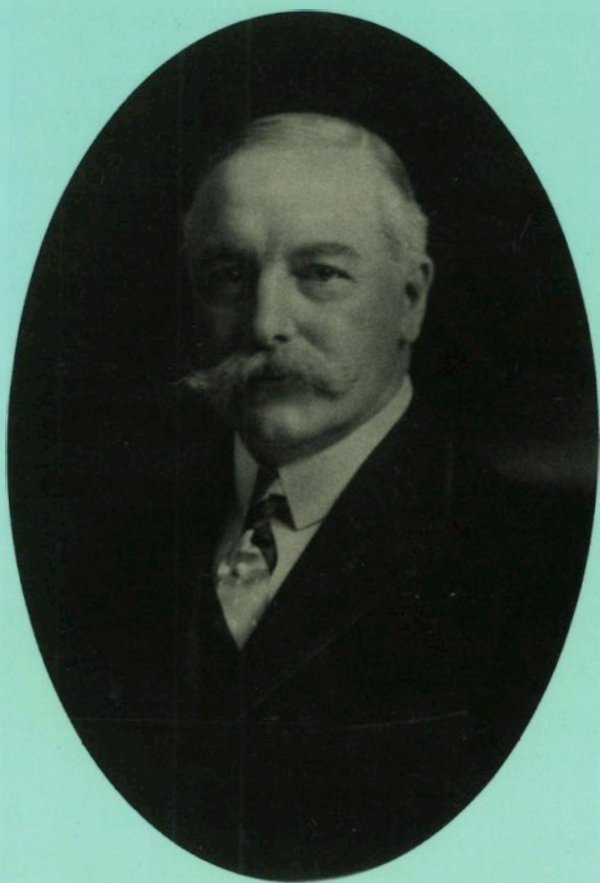


SIR GEORGE WHITE
OF BRISTOL
1854–1916

CHARLES HARVEY AND JON PRESS



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Sir George White of Bristol 1854–1916 is the seventy-second pamphlet to be published by the Bristol Branch of the Historical Association. The authors, Dr Charles Harvey and Dr Jon Press, are both graduates of the University of Bristol. Dr Press is a Senior Lecturer in History at Bath College of Higher Education, and Dr Harvey is Senior Lecturer in History and Humanities Computing at Royal Holloway and Bedford New College, University of London. They jointly edited *Studies in the Business History of Bristol*. Dr Harvey is joint editor of *Business History* and Dr Press is assistant editor.

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SIR GEORGE WHITE OF BRISTOL 1854–1916

Charles Harvey and Jon Press

George White (1854–1916) was a Bristolian whose chief interest was transport. Although he is much less well known than the famous engineers or inventors of the nineteenth century, few businessmen of his generation have a greater claim on our attention. He was at the forefront in Britain of those who exploited commercially the rapid advances in technology that took place in his lifetime. His interests encompassed all forms of mechanised transport. It was due to White that Bristol had one of the first electric tramway systems in Britain, and towards the end of his career he set up the first viable aeroplane manufacturing company in the country – the firm that eventually became the famous Bristol Aeroplane Company. He was also involved in railways, docks and shipping, notably the Taff Vale Railway, the Avonmouth and Sharpness Docks, and the Great Western Shipping Company. His career shows him to have been a man who recognised an opportunity when he saw it, and who, in what might have seemed at the time somewhat risky ventures, had the knack of knowing when the odds were in his favour.

White was born at Kingsdown, Bristol, on 28 March 1854, the second son of Henry White, a painter and decorator. His mother, Eliza née Tippetts, had been a domestic servant before her marriage. Virtually nothing is known of his childhood, other than the fact that he attended St. Michael's Boys School. In 1869, at the age of fifteen, he joined a prestigious Bristol law firm, Stanley & Wasbrough, as a junior clerk.¹ Besides general office duties, White was set to work on bankruptcy cases. He soon impressed the partners by his dedication and ready grasp of business detail. Even at an early age he displayed mature judgement, and, combined with an engaging personality, this soon marked him out for advancement.

In 1870, in the wake of enabling legislation, Stanley & Wasbrough became involved in tramway promotion. Before the

1. College of Arms, Pedigree of Sir George White, Bt. (1904); *Bristol Times & Mirror*, 23 Nov. 1916, p. 5.

second half of the nineteenth century, limited suburban growth was a consequence of transport technology and economics, and politicians, engineers and businessmen had become painfully aware of the worsening problems of urban congestion. Omnibuses were slow and expensive, and the search was on for a cheap and efficient form of urban transport. A simple and promising solution, which emerged in the 1850s and 1860s, was the horse tramway. Rails meant that a team of horses could pull double the weight of most omnibuses,² and cheaper fares and a smoother, faster, less noisy ride would be made possible. Initial attempts to open tramways in Britain's narrow and congested streets were not successful, however, and only after the Tramways Act of 1870 simplified the process of gaining approval for schemes of improvement did transport entrepreneurs show much enthusiasm for investment in urban tramways.

In Bristol, it was George White who was set to mastering the complexities of tramway company formation. This was no easy matter. Promoters needed parliamentary sanction for new routes, and the Board of Trade was empowered to set engineering standards and fix maximum fares. Furthermore, unlike railways, tramways needed the support of local and county councils, and opposition from more than a third of the residents and tradespeople along the route – the 'frontagers' – could suffice to block a scheme.³ Tramway promotion was consequently a time-consuming and costly business, and nowhere more so than in Bristol where there was a prolonged debate over whether tramways should be municipally or privately owned. Stanley & Wasbrough's first proposal, on behalf of a group of London speculators, was rejected by a local authority reluctant to hand roads over to a private company. The council decided instead to build its own line from the city centre to the suburb of Redland, a couple of miles distant. But whilst the council might own the city's tramways, it was not allowed to operate them, and consequently it needed to find an operator to take on the lease. There were few offers. The line was considered too short to be remunerative, and the council lacked the means to build additional lines. Eventually, in October 1874, Stanley & Wasbrough put forward, on behalf of local

2. J.P. McKay, *Tramways and Trolleys: the Rise of Urban Mass Transport in Europe* (Princeton, 1976), p. 14.
3. 33 & 34 Vict. c. 78; T.C. Barker and M. Robbins, *History of London Transport*, Vol.I (1963), pp. 191–5; M. Falkus, 'The Development of Municipal Trading in the Nineteenth Century', *Business History*, XIX (1977), pp. 153–4; C. Klapper, *The Golden Age of Tramways* (1961), pp. 32–3; E.F. Vesey Knox, 'The Economic Effect of the Tramways Act of 1870', *Economic Journal*, XI (1901), pp. 493–4.

interests, an offer to run the existing route and construct and operate another two connecting lines. This was accepted by the council after protracted debate.⁴ The Bristol Tramways Company was registered on 23 December 1874.⁵

In helping sort out the legal and political difficulties surrounding the launch of the new company, White gained valuable experience and business connections. The opportunity was there for him to impress by his usefulness, and, characteristically, he was not slow to see it. Some of the most influential men in Bristol were interested in the venture. They were led by William Butler, first chairman of the Bristol Tramways Company, who, having already made a fortune in tar-distilling and chemicals, was seeking to diversify his interests.⁶ The same was true of the enterprising wholesaler Henry Gale Gardner and coal magnate Joseph Wethered. These ambitious men, united in their desire to increase their wealth and power, saw in the young George White a shrewd and forceful intelligence that might be put to profitable use. He was appointed company secretary of the Bristol Tramways Company, on a part-time basis, at a salary of £150 per annum.⁷

White's involvement with entrepreneurs like Butler, Gardner and Wethered convinced him that his future lay in business rather than the law. In 1875 he left Stanley & Wasbrough to form his own stockbroking firm, George White & Company. He became a member of the Bristol Stock Exchange in the following year, while remaining secretary of the Tramways Company. Over the next ten years or so his attention was given over to building his personal fortune and increasing his business experience. He did this with the help of money borrowed from the Western Wagon Company, which throughout his career was to play an important part in supporting his activities. This seemingly modest company originally concentrated on the manufacture of wagons for the South Wales coal trade, but as time went by it increasingly acted as a private bank, advancing money against suitable securities.⁸ White was introduced to the company by Henry Gardner, the vice-chairman of Western Wagon. As Gardner's protégé, he was able

4. Bristol Record Office (hereafter BRO), 28787/1, Bristol Council Tramways Committee, Minutes, 1870-4; *Bristol Times & Mirror*, 22 Nov. 1871; *Western Daily Press*, 26 June 1874; 19 Aug. 1874; 25 Aug. 1874; 8 Oct. 1874.

5. Public Record Office (hereafter PRO), BT31 2059/9064.

6. On Butler's career, see T.H. Butler, *The History of William Butler & Co. Bristol Ltd., 1843-1943* (Bristol, 1954).

7. BRO, 35810, George White Papers (hereafter GWP), Bristol Tramways Co., Annual Report & Accounts, 1876. On this collection, see A. Bradley and J. Press (eds.), *Catalogue of the George White Papers* (Bristol, 1989).

8. BRO, GWP, Western Wagon & Property Co., Annual Report and Accounts, 1881. Also see T. Skinner, *Stock Exchange Year-Book* (1889), p. 602.

to raise a succession of short-term loans to fund his dealings in stocks and shares. These amounted to £4,900 at the beginning of 1889.⁹ Without such ready access to capital, it is doubtful if White could have emerged at such a tender age as one of the leaders of Bristol's business community. The many surviving records relating to George White & Company give a good indication of the volume and extent of its stockbroking business. It appears that White managed his own portfolio actively, but his main business was dealing on behalf of important local clients like Wethered and Stuckey's Bank.¹⁰ He dealt in a wide range of stocks and shares, though his particular expertise was in the transport field. He studied meticulously the performance of selected enterprises. A good example is the Taff Vale Railway, which was regarded by many as the most successful railway in the British Isles (in the 1880s its annual dividends ranged from 11.5 to 18 per cent).¹¹ Over many years, White traded heavily in Taff Vale shares both on his own account and those of other Bristol capitalists. A number of other Bristol and South Wales companies excited similar interest.¹² It is evident that the stockbroking business was at the centre of his business world. Not only did it generate substantial profits, it also enabled him to accumulate a formidable knowledge of transport undertakings.

In the late 1870s and early 1880s, White played an increasingly important role in the affairs of the Bristol Tramways Company. The Redland line, which opened in 1875, was an immediate success, carrying half a million passengers in the first six months of operation. Eastville and St. George, densely populated working class districts, were connected to the city centre in the following year. In 1878 Bristolians made some 3,379,000 journeys by tram.¹³ Public enthusiasm for the system was such that "urgent solicitations" were made for new lines by "the inhabitants of various districts". In March 1879, the company, "greatly encouraged by many influential members of the Town Council", responded by proposing "a scheme which would have the effect of consolidating the Company's working and making a complete system for Bristol".¹⁴ By the early 1880s, as our table shows (see p. 31), Horfield, Hotwells and Bedminster had been incorporated into an integrated, though not fully developed, tramway network. This, with all the supporting

9. BRO, GWP, Western Wagon & Property Co., Minutes, 5 Feb. 1889.

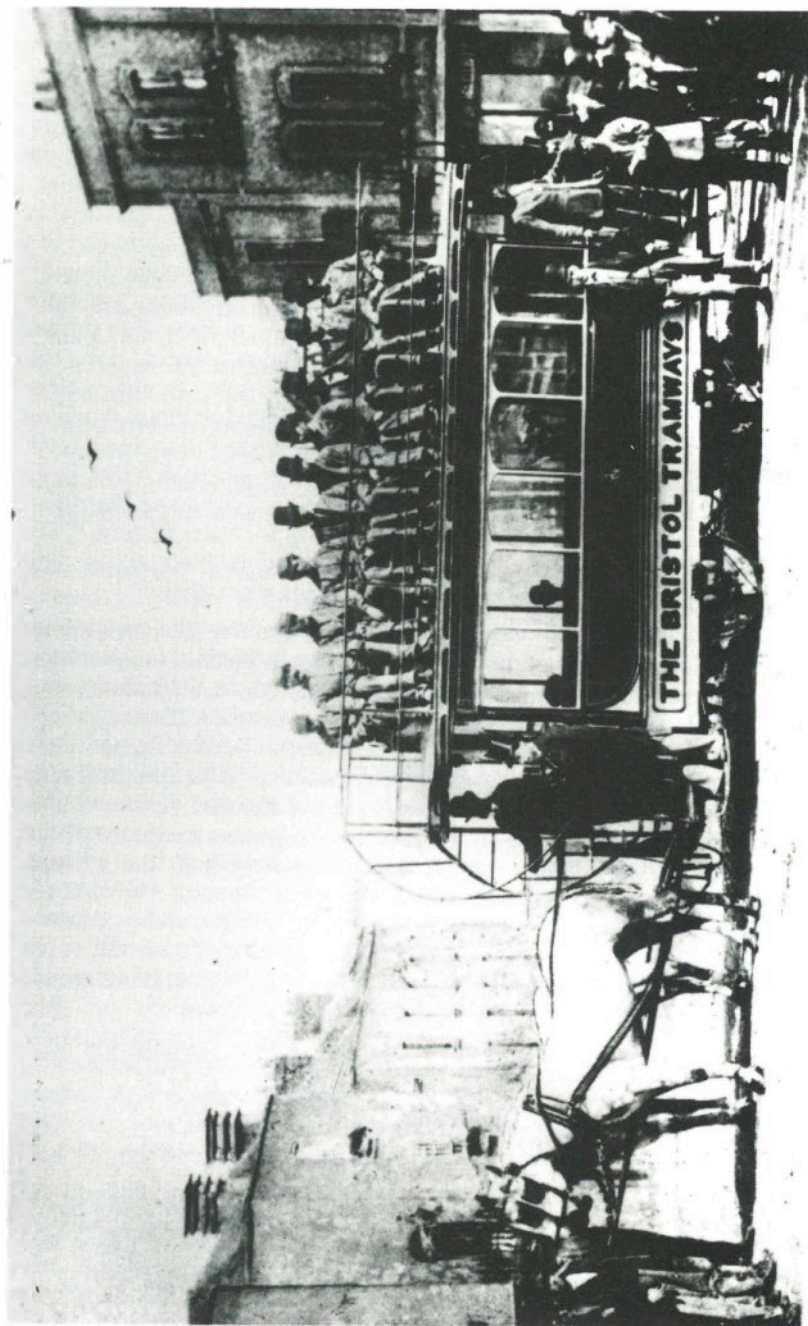
10. BRO, GWP, Letter Books.

11. Skinner, *Stock Exchange Year-Book* (1889), p. 237; (1891), pp. 284-5.

12. BRO, GWP, George White & Co., Letter Books.

13. BRO, GWP, Bristol Tramways Co., Report and Accounts, March 1876; March 1879.

14. *Ibid.*, March 1897.



1. Bristol's first tram at the junction of Perry Road and Colston Avenue, August 1875.

facilities of offices, carriages, depots, horses and stables, had been financed by the shareholders to the tune of £115,000, and a further £19,200 had been raised through the issue of 4½ per cent debentures.

White assumed responsibility for dealings with the Board of Trade, the Council and the residents. He generally adopted a firm and forthright attitude, often threatening that the company would abandon its plans unless they were approved in full. In particular, he obstinately resisted the imposition of 'unworkable' regulations on fares and tickets, claiming that the Council was trying to run the company's affairs. The Council was often obliged to back down.¹⁵ Another contentious issue was that of Sunday working, and here White was less successful. Following a motion proposed by James Inskip, a prominent local solicitor and leading sabbatarian, the council voted in November 1875 that extensions to the system should only be permitted if the company agreed to cease working during the hours of Sunday services. White argued that, apart from interfering with general traffic, this would prevent "the large industrial population of the city" from visiting Clifton and Durdham Downs, which had been bought by the city for their benefit.¹⁶ On this occasion, however, the Council refused to back down, and several years passed before the restrictions were eased.¹⁷

White was very effective in publicising the case that trams were a public benefit as well as a source of private profit. He often won the support of local newspapers and residents. In Bedminster and Horfield, for example, public meetings concluded that, although local tradesmen might suffer, tramways would benefit the population as a whole.¹⁸ In Clifton, however, the Bristol Tramways Company's experience was very different. Some Clifton businessmen were in favour of improved communications with the city centre, but most residents were very hostile to the scheme. This matched the experience of tramway promoters elsewhere in the British Isles; tramways were welcomed in lower-class or lower-middle-class districts, but not by the inhabitants of the more well-to-do suburbs.¹⁹ In Clifton it was feared that trams would

15. See, for example, *Bristol Times & Mirror*, 25 Feb. 1879; 5 March 1879; *Bristol Evening News*, 25 March 1879.

16. BRO, 28787/1, Tramways Committee, Minutes, 25 Nov. 1875; George White to Tramways Committee, 1 Dec. 1875.

17. J. Latimer, *Annals of Bristol in the Nineteenth Century* (Bristol, 1897), pp. 464–7.

18. *Bristol Daily Post*, 17 Oct. 1878; *Western Daily Press*, 17 Oct. 1878; 24 Oct. 1878.

19. See, for example, G. Wilson, *London United Tramways: a History, 1894–1933* (1971), pp. 39–41; M. Jahn, 'Suburban Development in Outer West London, 1850–1900', in F.M.L. Thompson (ed.), *The Rise of Suburbia* (Leicester, 1982), p. 135.

bring in hordes of undesirable visitors, depress property values, encourage jerry-building, and cause residents to shop in Bristol, to the detriment of local traders.²⁰ The attitude of Clifton society towards Bristol and its tramways was unambiguously stated in the following vitriolic letter, published by the *Bristol Mercury* in October 1878:

Sir – is it not something terrible and most wicked that the disgusting tramway is to bring the nasty, low inhabitants of Bristol up into our sacred region? We have nothing common or unclean amongst us at present. Poor people do not walk about on Clifton streets . . . And now here are those money-making plebeians of Bristol talking of running tramcars through our beautiful and lovely Clifton! . . . Why is this to be? Why must the common people be allowed to walk about here? They should stay in their own homes. They would feel more comfortable, surely, among their own houses and streets than here. The policemen should stop it.²¹

The residents' objections led the Council to reject the Clifton extension. White continued to apply pressure, but the Clifton route was subsequently served by horse omnibuses.²² The remaining extensions were completed by the end of 1880, by which time the Bristol Tramways Company was operating seven routes in the city. In the following year, White also negotiated the purchase of the original Redland line from the Council at a cost of £8,000, thus bringing all Bristol's tramways under private ownership.²³

In the early 1880s, George White was still a young man without a substantial personal fortune. Yet he mixed easily with the wealthy and experienced businessmen with whom he had daily contact. He was seen as an informed and responsible 'junior partner', who could be relied upon to attend to details and execute plans. He was invariably involved in their joint projects. When they formed the City of Gloucester Tramways Company in 1881 to take over the assets of the ailing Gloucester Tramways Company, White again took on the job of company secretary.²⁴ A year later he became involved in the far more ambitious promotion of the Bristol & London & South Western Junction Railway (B & LSWJR), which boasted an authorised share capital of £1,866,000.

20. *Western Daily Press*, 3 Oct. 1878.

21. *Bristol Mercury*, 17 Oct. 1878.

22. BRO, 28787/1, Bristol Council Tramways Committee, Minutes, 23 Dec. 1880.

23. Ibid, 29 Sept. 1881; 17 Nov. 1881. Also see J. Latimer, *Annals of Bristol in the Nineteenth Century* (1887), p. 465.

24. BRO, GWP, Bristol Tramways Co., Annual Report and Accounts, 1880-1.

In November 1882, a Bill was put forward in Parliament to sanction a new route to London. A new station was proposed for central Bristol, with trains running via Radstock and Westbury to join the London & South Western Railway's main line from Waterloo.²⁵ The promotion of the B & LSWJR largely stemmed from the growing dissatisfaction of Bristol's industrial and commercial interests with the service provided by the Great Western Railway (GWR).²⁶ George White was involved because he sat on the board of the Bristol & North Somerset Railway (BNSR), over whose tracks the proposed company's trains would run between Bristol and Radstock. The BNSR had been built to serve the Somerset Coalfield, but had never paid a dividend on its ordinary shares and had been in receivership since 1881. In 1882 the directors resigned, to be replaced by a new board which included Wethered (chairman), Gardner (deputy chairman) and White.²⁷ Although the railway had always been worked by the GWR, the new directors were clearly interested in the possibilities of the rival scheme. Like much else, the B & LSWJR scheme was organised from White's offices in Clare Street, Bristol. White acted as secretary to the promoters, and was responsible for the organisation of meetings and parliamentary and publicity work.²⁸ The scheme was ill-fated, however, despite the rare unanimity with which it was supported by the local business community and the Council. Opposition from the GWR was simply too strong, and the Bill was resoundingly defeated in Commons Committee. The GWR and the LSWR negotiated a ten-year truce, thus ensuring that the proposals for an alternative direct route from Bristol to London would not be revived. White was left to negotiate the sale of the Bristol & North Somerset Railway to the GWR.²⁹ Defeat in this was one of the few failures of White's business career, though, in compensation, it enhanced his standing in the community and brought him into still closer contact with Bristol's civic and commercial leadership.

As White's standing and financial resources increased during the 1880s, he began to exert a more direct influence on the affairs of transport companies. A good example is the Bristol Port Railway

25. *Daily Post*, 15 Nov. 1882; Latimer, *Annals*, pp. 522–3.

26. For a summary of the criticisms, see *Daily Post*, 17 Nov. 1882.

27. PRO, RAIL 77/1–8; Skinner, *Stock Exchange Year-Book* (1881), p. 44; (1882), p. 47; (1883), pp. 55–6; 'Mr George White', *The Magpie*, 8 April 1890.

28. BRO, GWP, George White & Co., Letter Books; Newscuttings Files.

29. *Bristol Evening News*, 24 April 1883; *The Magpie*, 8 April 1890; E.T. MacDermot, *History of the Great Western Railway*, Vol. II (1931), pp. 345–6; H. Ellis, *British Railway History: an Outline from the Accession of William IV to the Nationalisation of Railways* (1959), Vol. II, pp. 120–1.

& Pier Company, which by the middle of the decade was in a desperate financial position. The decline in its fortunes and the price of its shares was watched with great interest by White. He bought parcels of shares at low prices and by May 1887 he was the largest single shareholder in the decrepit concern.³⁰ At this point, White formed a shareholders' committee to urge upon the directors a plan to link the city docks with the new dock at Avonmouth, opened in 1877. The scheme, conceived by White and planned in detail by the London engineer Joseph Kincaid, won wide support in Bristol, as it promised to break the GWR's monopoly of the city docks and provide a direct connection with the Midland Railway. White joined the board but, in the event, the proposed works proved beyond the resources of the Bristol company, and in October 1889 it sold out to the Midland for £97,500.³¹ White could hardly have been dismayed by this. He personally had made substantial profits with the share price recovery that followed his pursuit of the extension scheme. Moreover, the affair helped raise his public profile and further his reputation as a man with considerable business acumen and integrity. The trust which others placed in him was reflected in his appointment on many occasions from the 1880s as liquidator of companies in financial difficulty. In February 1884, for instance, he was asked to liquidate the York Tramways Company. York lacked the heavy traffic of northern industrial towns, and the tramway system had been run at a loss for some time. White, however, was able to run the line for two years at a modest profit. The debenture holders were paid off, and ordinary shareholders offered 6s. 8d. (33p) in the pound. In 1886 White became director of a new company, the City of York Tramways Company, continuing to run the York tramways from his Bristol office until 1896.³²

White's growing reputation for financial management led in 1888 to his appointment as secretary of the Western Wagon & Property Company. He became responsible for introducing prospective borrowers and depositors, and the company substantially extended its operations in private banking. All loans were made against adequate security, and the firm earned healthy profits, with

30. PRO, RAIL 81/14; Bristol Port Railway & Pier Co., Shareholders' Book, 1883-90; Skinner, *Stock Exchange Year-Book* (1881), p. 62.

31. PRO, RAIL 81/3, Bristol Port Railway & Pier Co., Minutes, 26 Feb. 1886; 13 May 1887; 6 June 1887; 30 June 1887; 5 Oct. 1887; 24 Oct. 1889; BRO, GWP, Bristol Port Railway & Pier Co., Proposed Extension of the Railway to Canon's Marsh (6 June 1887); *Bristol Mercury*, 2 Dec. 1887; 21 Nov. 1889; *Western Daily Press*, 28 Feb. 1887; 30 Nov. 1887; 21 Sept. 1892.

32. BRO, GWP, George White & Co., Letter Books; Skinner, *Stock Exchange Year-Book* (1885), p. 438; (1896), p. 942.

dividends running at eight per cent throughout the 1890s.³³ Western Wagon valued his services, and paid him well: by the early 1890s he was receiving £2,500 per annum. Besides a healthy salary, White's association with Western Wagon gave him ready access to short term funds, and his borrowings rose progressively from £4,900 in 1889 to £12,000 in 1894.³⁴ Typically, he used the cash raised from Western Wagon to buy into companies, generally in the transport sector, which he considered to be performing badly. Once in a position of authority with the target company, he would install a new regime and devise policies to improve profitability and market value. When the time was ripe, he would sell off his personal shareholding, invariably at a healthy profit. In this way, White built his fortune while retaining sufficient time to manage properly those firms in which he retained a long-term interest.

One of the first financially 'vulnerable' companies to attract George White was the Bristol Port Railway & Pier Company. Another was the Severn & Wye & Severn Bridge Railway which had been built to connect the Forest of Dean coalfield with the docks at Lydney and Sharpness. Growing competition from South Wales and the cost of building the Severn Bridge made it a consistently poor performer. It went into receivership in 1883 and, although reconstructed in 1885, it never paid a dividend on its ordinary shares.³⁵ It was, however, of interest to the large railway companies operating in the area, the GWR and Midland. This did not escape White's notice. In 1890, he began to build up his shareholdings in the Severn & Wye, and by November 1893 he was in a position to visit Paddington and negotiate the sale of the company. The negotiations were a well-kept secret, and according to a later account he then called a meeting of the Severn & Wye directors and:

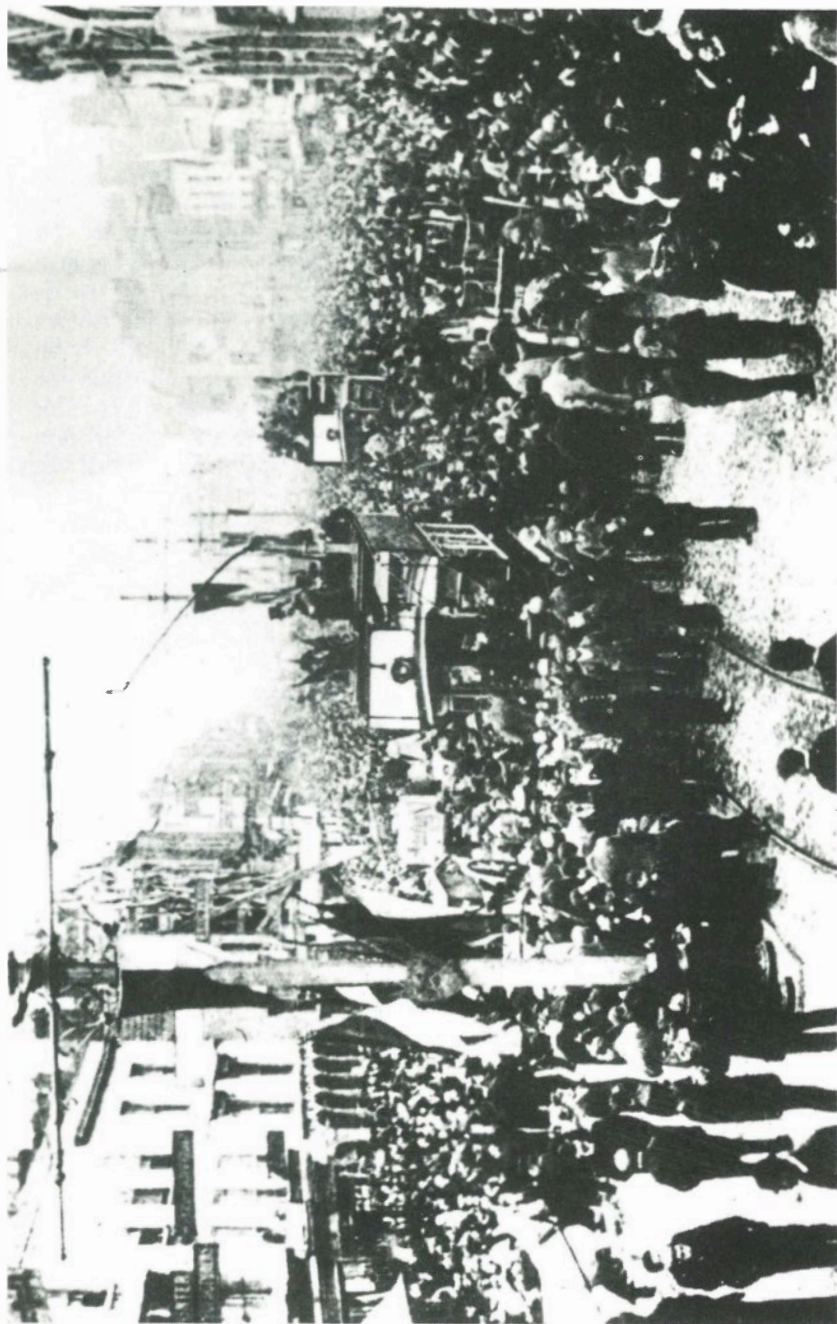
astonished them by laying the cut-and-dried scheme of purchase before them. They recognised the equity of the scheme, and accepted it; but it was whispered that they were horrified at the idea of an outsider selling their railway over their heads without a previous consultation with them.³⁶

33. BRO, GWP, Western Wagon & Property Co., Annual Report and Accounts, 1888–1900; Minutes, 1888–1900.

34. BRO, GWP, Western Wagon & Property Co., Minutes, 5 Feb. 1889; 22 June 1891; 14 Feb. 1894; 18 July 1894; Bristol Tramways & Carriage Co., Annual Report and Accounts, 1890–4.

35. Skinner, *Stock Exchange Year-Book* (1881), p. 113; (1889), pp. 224–5.

36. *Bristol Times & Mirror*, 23 Nov. 1916. Also see *Western Daily Press*, 21 Nov. 1893; *Bristol Mercury*, 22 Nov. 1893.



2. The inauguration of the electric tramway: crowds in Old Market, October 1895.

White was by now an active participant in shareholders' meetings, and his presence was often viewed with trepidation by directors. He represented himself not as a financial operator but as a substantial shareholder, acting in the best interests of fellow investors. One of his favourite ploys, as with the Bristol Port Railway & Pier Company, was to call for a shareholders' committee to examine the books and report on the performance of directors. White used this device to good effect in 1885, when he and Thomas Gillford, a fellow-shareholder, intervened in the affairs of the Bristol Port & Channel Dock Company. This firm had constructed Avonmouth Dock in the 1870s, and in 1884 its property was acquired by Bristol Corporation. The two inquisitors believed that the directors, in their eagerness to come to an agreement with the Corporation, had accepted a price which did not reflect the market value of the shares. They prepared a circular which referred to "the very urgent necessity that exists for prompt and independent action in order to ensure the protection of the shareholders' interests".³⁷ In March 1885 a committee of shareholders was set up to scrutinise the company's books. It revealed a number of irregularities; directors' remuneration did not appear in the accounts, and some directors, including the chairman, had received improper payments in respect of the company's contracts.³⁸ White in turn was accused of improper conduct by James Inskip (chairman of the Taff Vale Railway Company), who had an interest in the dock company's affairs. According to Inskip, he had promised to "make things comfortable for the directors" if he was entrusted with winding up the company.³⁹ White hotly denied this allegation, and was able to instigate a complete inquiry into past transactions and secure a more equitable division of the money received from the Corporation for the ordinary shareholders. Gillford and White were duly applauded by the shareholders for their efforts.⁴⁰

White again crossed swords with Inskip in 1891. The issue that raised the tempers of the two men was the financial performance of the Taff Vale Railway Company under Inskip's leadership. By this time, White was a major shareholder in Taff Vale with a personal shareholding valued at about £40,000,⁴¹ and he became

37. *Evening News*, 23 March 1885.

38. BRO, GWP, George White and Thomas Gillford to the shareholders of the Bristol Port & Channel Dock Co., 10 Oct. 1885.

39. *Bristol Times & Mirror*, 9 Nov. 1885.

40. *Ibid.*, 22 Dec. 1885.

41. BRO, GWP, Taff Vale Railway Co., Verbatim Report of the Special Meeting of the Proprietors, 26 May 1891. This represented 6.3 per cent of the issued share capital. Skinner, *Stock Exchange Year-Book* (1891), pp. 284–5.

disturbed when a rate war with the recently-opened Barry Railway led to falling dividends. Against the wishes of the directors, White succeeded in establishing a shareholders' committee, which commissioned a report on the company by two experts in railway management: Samuel Swarbrick, an associate of James Alport of the Midland Railway, and Joseph Tomlinson, President of the Institution of Mechanical Engineers. The report was highly critical of the board's policies.⁴² A special meeting of the proprietors was held in Bristol on 26 May and was distinguished by a verbal contest between Inskip and White. Mustering all his powers of oratory, Inskip, an accomplished public speaker, attempted to dismiss the criticisms, but he was vigorously assailed by White, who painted a sorry picture of mismanagement and inefficiency; the unsuccessful rate war with the Barry Railway was attacked, improper accounting methods were exposed, and working and repair costs were unfavourably compared with those of other railways. White's command of detail and understanding of the issues proved too much for Inskip, who must have found the meeting a humiliating experience. The report was approved by an overwhelming majority.⁴³

With one exception, the entire board of directors was replaced by nominees of the shareholders' committee. Among the new directors were experts in railway management (including Charles Thomas, deputy chairman of the Midland Railway) and coal-owners who could direct a substantial volume of coal traffic towards the Taff Vale.⁴⁴ Notwithstanding his leadership of the shareholders' committee, however, White did not become a director, preferring instead to attend meetings on an occasional basis. The real pay-off for defeating Inskip was that George White & Company became the main issuing house for Taff Vale. From December 1891 onwards a succession of issues of debenture stock and shares was managed by White, earning valuable income in fees and commission.⁴⁵

By the early 1890s George White had emerged as a major figure in the transport world. He had pulled off a number of financial and

42. PRO, RAIL 684/10, Taff Vale Railway Co., Minutes, 1 May 1891; *Financial Times*, 15 May 1891; *South Wales Daily News*, 15 May 1891; 18 May 1891; *Western Mail*, 15 May 1891; 27 May 1891.

43. BRO, GWP, Taff Vale Railway Co., Verbatim Report; PRO, RAIL 684/10, Taff Vale Railway Co., Minutes, 26 May 1891.

44. PRO, RAIL 684/10, Taff Vale Railway Co., Minutes, 2 July 1891; 8 Dec. 1891; *Western Mail*, 29 May 1891; 22 June 1891; 3 July 1891; *South Wales Daily News*, 7 July 1891.

45. PRO, RAIL 684/10, Taff Vale Railway Co., Minutes, 2 July 1891; 8 Dec. 1891; 6 Dec. 1892; 25 Sept. 1894; 18 Oct. 1896; *Financial News*, 5 July 1897; Skinner, *Stock Exchange Year-Book* (1900), p. 378; (1916), pp. 439–40.

organisational coups, and he had run one of Britain's largest tramway networks at a consistent profit. During the 1880s and early 1890s, the Bristol Tramways Company tightened its grip on passenger transport in Bristol. In 1881, an agreement was reached with the GWR and the Midland Railway which granted it the sole right to "ply for hire public vehicles of all kinds at the Bristol Joint Railway Station". Temple Meads Station, as it later became known, was "the base of all passenger carrying operations in Bristol", and this justified the payment of a very large rental to the railway companies.⁴⁶ A new company, the Bristol Cab Company, was set up in 1886 by the directors and officers of the Bristol Tramways Company to operate cabs to and from the station, and competing omnibus companies were driven out of business.⁴⁷ With the opposition thus dispatched, the assets of the Bristol Cab Company were merged in 1887 with those of the Tramways Company to form a new concern, the Bristol Tramways & Carriage Company. Over the next few years the new company enjoyed a steady growth in traffic and income. In 1886, the year before the merger, the Tramways Company carried 5.5 million passengers (20 journeys per head of population), whilst in 1891 the combined tramways, cab and omnibus company carried 11.2 million passengers (38 journeys per head). Revenues rose from an average of £39,543 per year in 1881-5 to £56,109 per year in 1886-90, and operating profits from £6,417 to £10,840. By 1890 White had virtually taken over the running of the Bristol Tramways & Carriage Company, acting more like a managing director than a company secretary, and in recognition of this his salary was raised to £500 per annum.⁴⁸

Despite their rapid spread and popularity, however, the shortcomings of horse-drawn tramways became increasingly apparent as the years passed. Operators complained about the high costs of stabling and feeding hundreds of horses (the Bristol company had 876 horses in 1889). Horses had a working life of only four to five years, and, because they could pull for just a few hours daily, a team of five to seven horses was needed for every tramcar. Horse costs typically absorbed 50 per cent of revenues. In Bristol, in the 15 years between 1876 and 1890, forage alone accounted for 34 per cent of operating expenses, compared with 35 per cent for wages and salaries; veterinary fees and stabling accounted for a large part of the rest. Moreover, the public and local authorities increasingly

46. BRO, GWP, Bristol Tramways Co., Report and Accounts, Aug. 1881.

47. PRO, BT31 3071/17512; 3674/22794; 3774/23562. Also see *Bristol Evening News*, 5 Sept. 1878.

48. BRO, GWP, Bristol Tramways Co., Annual Report and Accounts, 1890-1.

complained of high fares and a poor standard of service. Tramways gained an unenviable reputation for dirty, crowded carriages and irregular service.⁴⁹ Severe gradients aggravated matters in Bristol: trace horses were frequently needed, and James Clifton Robinson, the company's first general manager, commented that "the Bristol Tramways Company own a series of lines which have the reputation of being the most difficult to work of any in the United Kingdom".⁵⁰

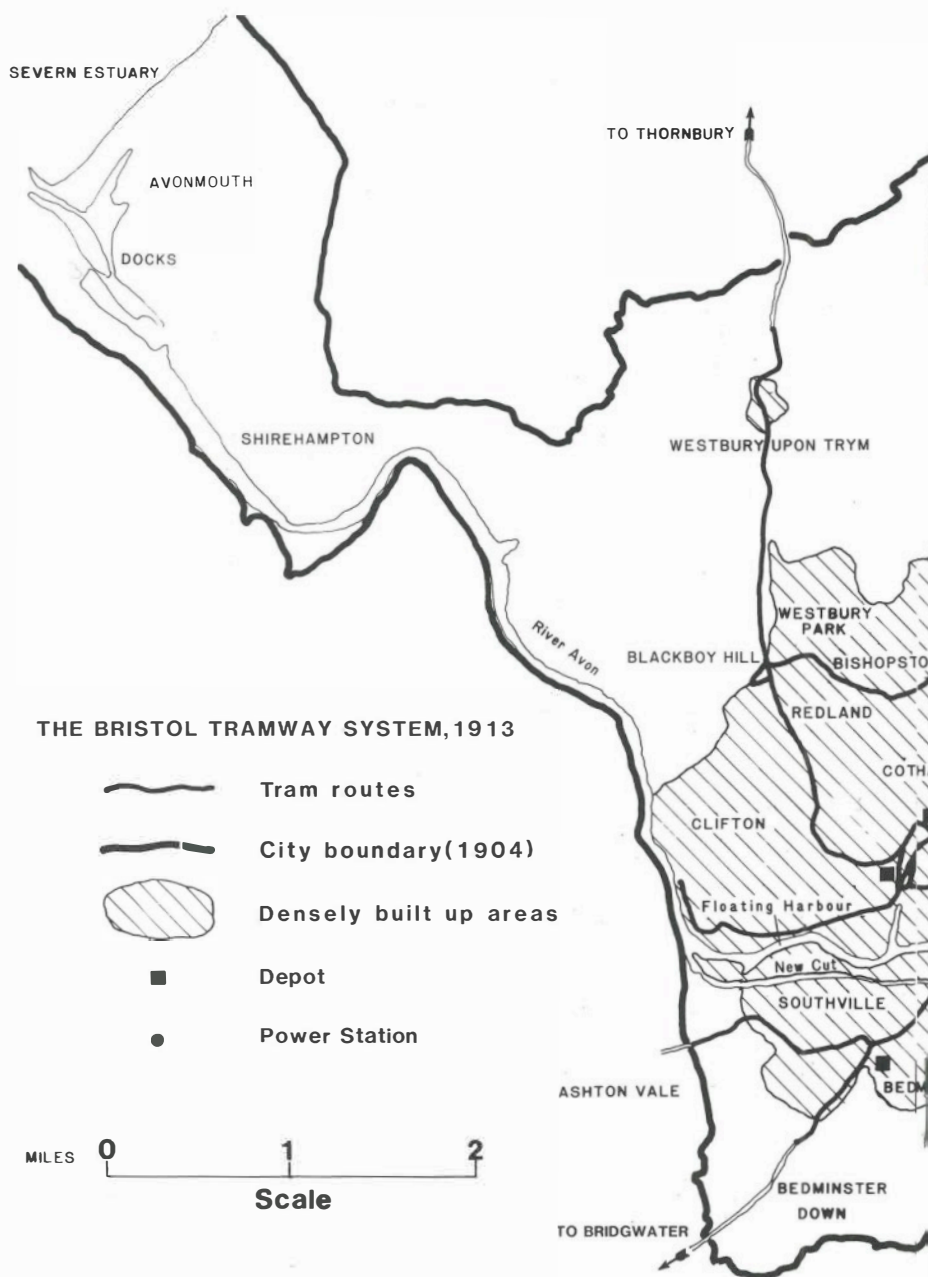
The board of the Bristol Tramways Company, like those of many other companies, was well aware of the problems of horse-drawn transportation. Experiments with steam trams were conducted on the Horfield line, but customers disliked the noise and dirt, and horses was reintroduced. Cable power, which was extensively used in Edinburgh and in the United States, was also considered and rejected by the directors. The technical solution was eventually found in electric traction; the adoption of which inspired in Britain a second tramways boom beginning in the mid-1890s and involving a rapid multiplication of capital invested in the industry. Larger, double-decked carriages, improved speeds and faster turnaround times (vehicles could reverse direction) meant immediate increases in carrying capacity. Electric trams were also quiet, clean, reliable and able to negotiate steep gradients. Above all, they were sufficiently fuel-efficient to allow lower costs and fares despite the considerable capital outlay needed to electrify lines.

In Bristol it was George White who became the enthusiastic promoter of the new technology, together with his close friend and associate, the engineer James Clifton Robinson. Robinson had worked extensively in the United States since the mid-1880s, and was recognised as one of the world's leading authorities on cable and electric tramways.⁵¹ He was determined to lead the way in bringing electric traction to Britain's towns and cities. Bristol was an ideal place to start: the topography of the place indicated that major operating economies could be made, and the sound financial record of the Tramways Company made it likely that funds would be available from the investing public. In 1893, Robinson

49. See, for example, 'Lesser Columbus' [Laurence Cowen], *Greater Bristol* (1893), pp. 54-7. On operating costs, see *Report of the Select Committee on Tramways (Use of Mechanical Power)* (P.P. 1878, XVIII), QQ.635, 1851.

50. BRO, GWP, typescript of interview with J.C. Robinson, 1898.

51. On Robinson's career, see BRO, GWP, J.C. Robinson, 'Autobiographical Notes', 1902; Wilson, *London United Tramways*, pp. 27-34; Barker and Robbins, *London Transport*, Vol. II, pp. 118-36; H.J. Dyos and D.H. Aldcroft, *British Transport: an Economic Survey from the Seventeenth Century to the Twentieth* (Leicester, 1969), pp. 336-7.





was invited, at White's behest, to report on the "advisability of adopting electricity as the motive power of the present lines from Old Market to St. George and the proposed extension to Kingswood".⁵² Robinson's report, which pointed out the advantages of the overhead trolley system of current collection and the suitability of electric power for the gradients of the Kingswood route, concluded that "in electric traction we have the means provided by which an enormous extension of tramway enterprise may profitably be undertaken".⁵³ The directors recommended the report to the shareholders, noting that the Kingswood district, with 60,000 inhabitants, was "not only a very populous one, but an important manufacturing one" that had long "suffered from want of communication with Bristol".⁵⁴ Work began almost immediately under Robinson's supervision, most of the equipment being supplied by the British Thomson-Houston Company. The line was completed in October 1895 at a total cost of £49,981, and Bristol became the first city to operate electric trams under the newly published Board of Trade regulations. According to Barker and Robbins, the opening of the Kingswood line "marked the real beginnings of electric tramway operation in Britain", and heralded the start of the nation's second tramway investment boom.⁵⁵

The public responded to the speed and sheer novelty of the new trams with enormous enthusiasm. On opening day, 14 October 1895, East Bristol schools and factories were closed, and crowds lined the streets, cheering the trams on their way. The City & Kingswood Electric Tramway was an instant success. Within the first four months of its opening the number of passengers exceeded one million. The public, appreciative of "improved facilities and lower fares", clamoured for the conversion of old lines and the building of new ones. White, who had been elected managing director of the Tramways Company in 1894, in "recognition of the valuable services made by him during the last 20 years", responded

52. BRO, GWP, Bristol Tramways & Carriage Co., Report and Accounts, Aug. 1893.
53. J.C. Robinson, *Bristol Tramways: Report on Proposed Introduction of Electric Traction on the St. George Line, and the Proposed Extension to Kingswood* (Bristol, 1893), p. 8.
54. BRO, GWP, Bristol Tramways & Carriage Co., Report and Accounts, Feb. 1894.
55. Ibid.; Barker and Robbins, *London Transport*, Vol. II, p. 21. Also see Bristol Tramways & Carriage Co., Reconstruction and Electrification Expenses, 1895; 'The Bristol Electric Tramway', *Electrical Review*, 37 (1895), pp. 442-53; P. Jones, 'The Spread and Diffusion of Urban Tramway Services in the British Isles' (unpublished Ph.D. thesis, University of Aberdeen, 1977), pp. 128-34.

with alacrity to these demands.⁵⁶ Plans were made to electrify the entire system and extend existing lines to outlying districts like Fishponds, Bedminster Down, Knowle, Brislington and Hanham. The whole operation was completed by 1900, and entailed the building of 10.5 miles of new lines, the conversion of 16.5 miles of horse tramways, the commissioning of a centrally located generating plant, and the erection of a new depot and car building works on a five acre site at Brislington.⁵⁷

The electrification programme completely changed the character of the Bristol Tramways & Carriage Company. A simple technology was superseded by one that was capital-intensive and sophisticated. Huge amounts of money were expended in the process. Between 1896 and 1902 the paid up capital of the company increased fourfold to £1 million, while the total capital employed in the business increased at a similar rate to £1.5 million. The results more than justified White's prognostications: Bristolians caught the riding habit in a big way, and between 1896-1900 and 1901-5 the average number of passengers carried per year rose from 22,728,000 to 42,581,000. Average operating profits rose from £39,690 to £83,373 over the same period.⁵⁸

Bristol, however, was by no means the only city in which George White and Clifton Robinson were involved in urban transport development. White's reputation and resources were such that in 1892 he was able to gain control of the Imperial Tramways Company which operated sizeable networks in Dublin, Middlesbrough and Reading.⁵⁹ The financial position of Imperial was very poor. It had an issued share capital of £118,000, and only a fraction of that amount had been returned to investors in the form of dividends. White set about turning the business around. The old directors were forced out, leaving White as chairman and Robinson as managing director. More effective operating practices were introduced, and in 1897 the issued share capital of the concern was raised to £220,000 in order to finance a programme of electrification and modernisation.⁶⁰ White and Robinson were also pioneering electric tramways in London. In 1894, White was appointed receiver of the West Metropolitan Tramways Company,

56. BRO, GWP, Bristol Tramways & Carriage Co., Report and Accounts, Feb. 1895.

57. Ibid., Feb. 1900.

58. Ibid., 1896-1905.

59. BRO, GWP, Imperial Tramways Co., Report of Proceedings at the Ordinary General Meeting, 25 Feb. 1892; Report and Accounts, 1892-4.

60. BRO, GWP, Imperial Tramways Co., Annual Report and Accounts, 1892-4; PRO, BT31 2435/12343.

which owned derelict horse tramways in Hammersmith and Shepherd's Bush. In November 1894 he formed a new company, London United Tramways (LUT), to acquire West Metropolitan's assets. White became chairman, Clifton Robinson again joining him as managing director and engineer.⁶¹

The creation by LUT of a major suburban transport system, on the basis of a ramshackle collection of assets, was undoubtedly one of White's greatest achievements. His basic strategy was to run LUT lines along the main roads into London from the west, converging at the company's Hammersmith terminus. A number of connecting lines were also built, so that a fairly extensive system was eventually developed, linking places like Ealing, Acton, Chiswick, Uxbridge, Hounslow, Twickenham, Kingston, Richmond, Surbiton, Sunbury and Cranford. White and Robinson estimated that the number of potential passengers already living in these districts was sufficient to justify a large outlay of capital, and that as suburban development proceeded LUT would grow progressively richer. Success would be further ensured, they reasoned, by electrification and the employment of the best technology and operating methods available.⁶² In this respect, their pioneering work with the Bristol and Imperial companies was a big advantage for LUT. Nevertheless, success did not come easily. Local and county councils were often very obstructive, demanding substantial wayleaves and other concessions, and rival operators also tried to block LUT schemes. Inevitably, capital costs rocketed, from £148,000 in 1898 to more than £2 million in 1902.⁶³ However, one of George White's greatest strengths was his ability to persuade officialdom and the public of the worthiness of his projects. In June 1900, for example, the *Surrey Comet* acknowledged that:

the tramway company's Bill has been engineered with wonderful adroitness. The company's agents are skilled to a remarkable degree in the arts of tramways promotion, and they succeed in getting round the local authorities by the energetic use of methods to which, we must admit, we were previously ignorant.⁶⁴

61. Barker and Robbins, *London Transport*, Vol. II, pp. 21–2.

62. PRO, RAIL 1068/162, Minutes of Proceedings of the Light Railway Commission, 1901.

63. BRO, GWP, London United Tramways (hereafter LUT). Annual Reports and Accounts, 1896–1900; PRO, RAIL 1068/162; Skinner, *Stock Exchange Year-Book* (1900), p. 1087; (1916), p. 895. Also see Klapper, *Golden Age of Tramways*, p. 237; Wilson, *London United Tramways*, pp. 36–8.

64. *Surrey Comet*, 22 July 1900.

White was always aware of the importance of publicity. His companies benefited from his close association with his brother-in-law, Edward Everard, a leading Bristol printer who combined up-to-date technology with a veneration for William Morris and art nouveau, and was responsible for the production of large numbers of illustrated guides and brochures. The LUT also published newspapers extolling the virtues of electric trams, which intended to bring about the election of 'pro-tram' councillors to obstructive local authorities.⁶⁵ As in Bristol, White quickly demonstrated that electric tramways could offer both greatly improved services for the general public and attractive profits for investors.

In 1902, White and LUT joined forces with J.S. Morgan & Company (the British subsidiary of the Pierpoint Morgan group) to devise a plan for a network of deep level tube lines under London. The deal involved the setting up of an operating company, the London United Electric Railways Company, in which LUT and J.S. Morgan were to have held 37.5 per cent and 62.5 per cent of the voting stock respectively.⁶⁶ As negotiations and detailed planning proceeded, however, White began to have doubts about LUT's role as junior partner in the new venture. He had grown used to controlling – through shareholding or the quality of his leadership – the companies in whose affairs he was deeply involved. Thus, when he failed to negotiate a more equal partnership with Morgans, he decided to withdraw from the scene. Amidst accusations of dirty dealing, voiced vitriolically in the House of Commons and the press, he sold his controlling interest in LUT to Morgan's great rival Charles Tyson Yerkes, effectively scuppering London United Electric Railways.⁶⁷ The public outcry did not upset White. Before the financial restructuring of LUT in November 1901, he had directly controlled 80 per cent of LUT ordinary shares,⁶⁸ and, in selling this interest, he was able to reap rich financial rewards for all the work he had put in since 1894.

Although he subsequently concentrated his attentions upon the Bristol region, George White's withdrawal from LUT did not signal a scaling down of his activities. On the contrary, the years before the

65. See, for example, BRO, GWP, Bristol Tramways & Carriage Co., *Pictorial Bristol: and Handbook of the Bristol Tramways & Carriage Co.* (Bristol, 1897); LUT, *Souvenir of the Inauguration of the Company's Electric Tramways* (1902); LUT, *Points of Interest on the Present System* (1904); *Ealing Election News*, Feb–March 1898; *Chiswick Electric Tramways News*, March–April 1898.

66. Barker and Robbins, *London Transport*, Vol. II, pp. 77–83.

67. *Ibid.*, Vol. II, pp. 82–4; *Financial Times*, 30 Oct. 1902.

68. PRO, BT31 2435/12343; 31849/71844.

outbreak of war in 1914 witnessed the full flowering of his career. Away from business, he committed a lot of time and effort to philanthropic work, becoming a major benefactor of the Bristol Royal Infirmary, the Bristol branch of the Red Cross, and other charities, and he was made a baronet for his public service in 1904.⁶⁹ He was a staunch member of the Bristol Conservative Club, and served as a councillor for a few years in the 1890s, but, when offered the safe Conservative seat of West Bristol in 1906, he declined the opportunity, reputedly remarking that a back bench seat would be insufficient to interest him.⁷⁰ Business affairs continued to occupy much of his time. In 1902 the Western Wagon & Property Company, which was now paying him £3,900 per year for his services, appointed him chairman.⁷¹ He also continued as chairman of the Imperial Tramways Company until his death, and became chairman of the Bristol Tramways & Carriage Company in 1900.

Following his successful electrification of the Bristol tramways system, he ventured into the manufacture and operation of motor buses and taxis. In February 1905, he informed the Bristol Tramway & Carriage Company's shareholders that, although motor buses were not yet commercially viable, a small number would be acquired for extensive trials. Twelve double-deckers were purchased from Thorneycroft, and the first regular service began in January 1906. Thornbury, Saltford, Kelston and Westbury were thus brought within commuting distance of Bristol, and within the space of a few years depots were opened at Bath, Cheltenham, Gloucester and Weston-super-Mare. Motor taxis were introduced to Bristol by the Tramways & Carriage Company in 1908 after White had seen them working in France. Early models were imported, though many had their bodywork built in the company's workshops.⁷² Full-scale vehicle production soon followed, including the manufacture of buses and lorries for sale or hire. A new and well-equipped motor construction works was built in South Bristol in 1913, capable of manufacturing 300 vehicles a year as well as carrying out repair work.⁷³ By 1914 the company

69. *Bristol Times & Mirror*, 23 Nov. 1916, p. 8; *Who was Who, 1916-1928* (4th ed. 1967), p. 1116; G.M. Smith, *A History of the Bristol Royal Infirmary* (Bristol, 1917), pp. 416-8; C.B. Perry, *The Bristol Royal Infirmary, 1904-1974* (Bristol, 1981), pp. 20-4.

70. BRO. GWP, George White & Co., Newscuttings Files.

71. BRO. GWP, Western Wagon & Property Co., Minutes, 9 Aug. 1895; Annual Report and Accounts, 1902.

72. BRO. GWP, Bristol Tramways & Carriage Co., Annual Report and Accounts, 1905-14; M. Curtis, *Bristol: a Century on the Road* (Falmouth, 1977), p. 9.

73. BRO. GWP, Bristol Tramways & Carriage Co., Annual Report and Accounts, 1913.

was an established vehicle manufacturer, the operator of 17 distinct tramways services and 15 omnibus services, and the owner of a fleet of 169 tramcars, 44 buses, 29 charabancs, 124 taxis, and assorted vans, lorries and commercial vehicles. It was one of the biggest employers in Bristol, with a full time workforce of over 2,000 and an annual wage bill in excess of £110,000, a total capital of more than £2 million, and a yearly income of £445,000.⁷⁴

But despite the success of the Bristol Tramways & Carriage Company, neither the company nor Sir George White were universally popular in the city. The school of thought which held that local transport should be in municipal, not private, hands had never been completely silenced, and the post-1894 expansion, at a time when municipalisation was proceeding apace elsewhere in Britain, almost inevitably revived opposition to the company and its plans. Tension between the City Council and White and the Tramways Company was manifested in a long series of disputes. The first of these blew up in 1896 when the company sought permission to electrify the entire Bristol tramway network. Bristol was one of the first municipalities to generate electricity, and the Council insisted that it should provide the necessary power.⁷⁵ This was totally unacceptable to the Tramways Company which threatened to abandon the project, stating that:

The production of the motive power was one of the most vital parts of the Company's working, for which the Directors were responsible to the public, and they would not undertake that responsibility unless they had full control of the management of their own undertaking.⁷⁶

The Council responded in January 1897 by setting up a Tramways Purchase Committee to consider whether it should buy the entire system, as it was entitled to do under the terms of the 1870 Tramways Act.⁷⁷ Although the dispute continued into 1898 the

74. Ibid., 1914.

75. BRO, 28787/2, Bristol Council, Electrical Committee Report, 14 Feb. 1896; L. Hannah, *Electricity before Nationalisation: a Study of the Development of the Electrical Supply Industry in Britain* (1979), p. 8; D.G. Tucker, 'The Beginnings of Electricity Supply in Bristol, 1889–1902', *Journal of the Bristol Industrial Archaeological Society*, 5 (1972), pp. 17–18; P.G. Lamb, *Electricity in Bristol, 1863–1948* (Bristol, 1981), pp. 2–15.

76. BRO, GWP, Bristol Tramways & Carriage Co., Report and Accounts, Aug. 1896. Also see *ibid.*, Feb. 1897; *Western Daily Press*, 22 Feb. 1897.

77. This had become an attractive proposition because of recent legal judgments. Under section 43 of the 1870 Tramways Act, municipalities were empowered to purchase privately owned undertakings after 21 years, or subsequently at seven year intervals, and in 1893 the House of Lords ruled

Council eventually gave way under public pressure for a better service. The tramways remained in private ownership, and electric power was supplied by a central power station which the company built near Temple Meads railway station.⁷⁸

The question of municipalisation was again raised in 1913. By then, Bristol, Dublin, Edinburgh and Norwich were the only major cities with privately owned tramway systems, and the council commissioned a report to determine whether other local authorities had found it beneficial to acquire tramways. The report, which was submitted in July 1913, was firmly in favour of council ownership.⁷⁹ White, however, remained very hostile to municipalisation. He refused to allow the Council's consultants to examine the company's records, and tried to block the passage of the Council's Bill through Parliament.⁸⁰ When the Council conducted a poll to see whether Bristolians were in favour of municipalisation, White responded with a series of advertisements and articles in the *Bristol Guardian*, in which the company's case was forcefully argued. He claimed that the company was providing a good service for Bristol, and there was no need to rush into the purchase. Citizens were warned that "If you vote for buying, your rates will go up 5d. in the £".⁸¹

It appeared that White was fighting a losing battle. The Council's Act received the Royal Assent in August 1914, and the poll produced a majority for municipalisation.⁸² But White, though declaring himself ready to negotiate the sale, was not yet beaten. When the Council offered £670,000 for the system, White retorted that the company's price was £2 million.⁸³ At this stage

that the purchase price should be based upon cost of construction less depreciation; no payment was to be made in respect of goodwill or current or future profitability. In 1896, too, Parliament introduced new regulations empowering local authorities to operate tramways as well as owning them. M. Falkus, 'The Development of Municipal Trading in the Nineteenth Century', *Business History*, XIX (1977), pp. 153-4.

78. BRO, GWP, Bristol Tramways & Carriage Co., Report and Accounts, Aug. 1894; BRO, 28787/2, Tramways Purchase Committee Papers, Bristol Tramways & Carriage Co. to Tramways Purchase Committee, 12 Dec. 1897; Tramways Purchase Committee, Minutes, 21 Dec. 1897.

79. BRO, GWP, J.B. Hamilton and J.F.C. Snell, Joint Report on the Bristol Tramways (July, 1913), pp. 38-9, 63.

80. BRO, 28787/4, Tramways Option Committee, Minutes, 20 May 1913; 21 July 1914.

81. *Bristol Guardian*, 13 June 1914.

82. BRO, 28787/4, Tramways Option Committee, Minutes, 21 July 1914; 22 Sept. 1914.

83. *Bristol Times & Mirror*, 23 Feb. 1915; *Western Daily Press*, 23 Feb. 1915; BRO, 28787/4, George White to Tramways Option Committee, 11 March 1915.

the Council's enthusiasm for municipalisation began to wane, and it began to press for concessions from the company instead of insisting on outright purchase. Not surprisingly, the long drawn-out negotiations came to nothing, and although the question of tramway municipalisation was raised yet again in 1922, 1929 and 1936 the system remained in private hands until 1938.

All credit must be given to the astuteness and negotiating skills of George White in preventing the Council from gaining control of the tramways at a time when the law and public opinion strongly favoured municipalisation. However, it does not follow that this was necessarily a good thing for Bristol. The publication in New York of the remarkable National Civic Federation three-volume report on *Municipal and Private Operation of Utilities* (1907) lent credence to those who argued that the Bristol tramway system was a mismanaged monopoly which operated against the public interest. The American team which visited Britain in 1906 compared four publicly owned systems – Glasgow, Manchester, Liverpool and London – with private undertakings in Dublin, Norwich, West London (London United Tramways) and Bristol. A mass of evidence was collected showing the privately-operated systems in a very poor light.⁸⁴ Bristol, though not the worst of the private undertakings, was said to be grossly overcapitalised (its assets having a book value of £1.3 million against a 'real value' of £700,000) and to exploit its customers and workers alike. It was reported that staff worked 70 hours a week for £1 5s. 6d. (£1. 27½p.) compared to averages of 57 hours and £1 12s. 8d. (£1. 63p.) for the four municipal tramways. Fares were claimed to be 65 per cent higher than the municipal average.⁸⁵

Though the conclusions of the National Civic Federation's report cannot be dismissed out of hand, they should not be regarded as in any way definitive. An outstanding weakness of the research is that no real attempt was made to compare like with like. The four municipal systems examined were not typical of all British public operations. Each served a large, densely populated city and unit costs were predictably low, making comparison with cities like Bristol or Norwich somewhat invidious. The statistical evidence is likewise flawed. No account was taken when calculating profit rates of the fact that municipal ventures often took over private systems on extremely favourable terms. This is why Bristol Tramways was judged to be chronically overcapitalised when, in fact, the market capitalisation of the firm was much higher than its nominal capitalisation. Investors evidently had a

84. National Civic Federation, *Municipal and Private Operation of Public Utilities* (New York, 1907), Vol. I, p. 263.

85. *Ibid.*, pp. 272–302.

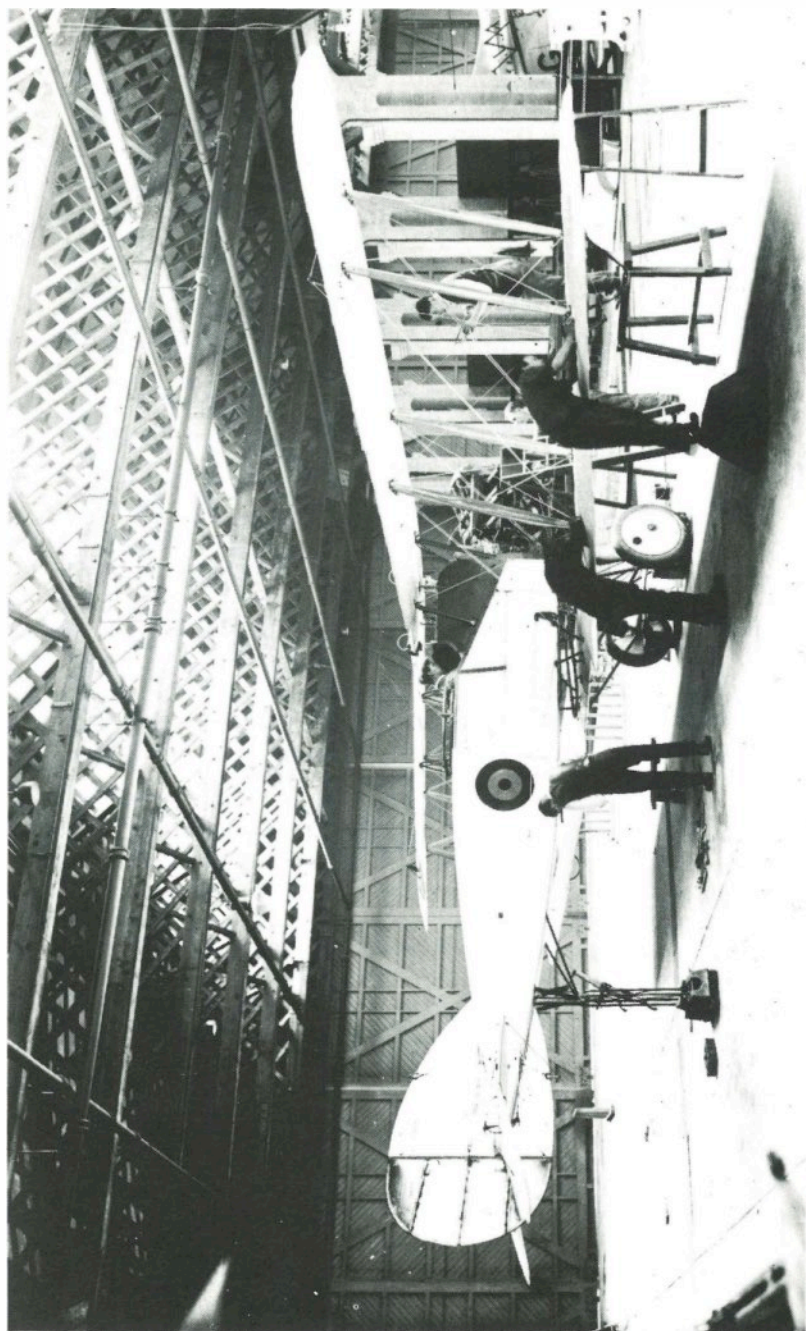
high regard for the company even if the American investigators did not. Furthermore, since White refused to supply the Americans with any detailed information on costs, fares, hours of work or wages, the accuracy of many of the comparative statements in the report must be seriously questioned.

All the signs are that in fact the firm was technically efficient and well managed throughout the period. Equally impressive is the firm's financial record. Respectable dividends were regularly paid, but White never succumbed to the temptation to distribute an excessive proportion of the profits. Substantial reserves were built up, amounting to £252,000 by 1914, ensuring that adequate funds were available for the maintenance of the city's urban transport system – hardly a sign of financial mismanagement. White certainly set the interests of the shareholders very high, but there is no indication that customers suffered unduly in consequence. Fares were never such as to lead to vast monopoly profits and the quality of service improved steadily over the years.⁸⁶ If any group suffered under the White regime it was the workers; although a non-contributory pension scheme for Bristol tramway workers was set up in 1898, their pay and hours of work did not match those of transport employees elsewhere, and White was fiercely opposed to trade unionism. In 1901, when Will Thorne's National Union of Gasworkers and General Labourers attempted to unionise the Bristol tramways workforce, it reported that "the Company are trying to break the spirit of the men by discharging many of those that had joined the Local Branch". About 450 men subsequently struck over hours and conditions of employment, causing White to campaign against "interference by outside interests". Loyal employees were rewarded with silver medals and cash bonuses. As far as White was concerned, it was he who was responsible for employees' welfare, not the trade unions.⁸⁷

The crowning achievement of Sir George White's distinguished career was the establishment of the British & Colonial Aeroplane Company, registered on 19 February 1910 with an issued capital of £25,000. The new company was privately funded by members of White's family – a reflection of the commonly held view that aviation was a risky business. Sir George and his brother Samuel

86. Admittedly, the quality of service fell sharply in the 1920s and 1930s. This, however, was due to the continuing uncertainty over municipalisation, which led White's successors to neglect much-needed modernisation programmes.

87. BRO, GWP, National Union of Gasworkers and General Labourers, Notice to the Tramway Motor Men and Conductors of the United Kingdom, 1901; Bristol Tramways & Carriage Co., Notice to Staff, 29 July 1901; *To the Citizens of Bristol*, 31 July 1901; *Complete Refutation of the Mis-Statements of Agitators*, 31 July 1901; Annual Report and Accounts, 1902.



3. A Bristol Fighter under construction at Filton. More than 3,500 were produced.

each subscribed £10,000, and the former's son, G. Stanley White, £2,500. The remainder was subscribed by George White's nephews, Henry White Smith and Sydney Ernest Smith, who were respectively appointed secretary and manager.⁸⁸ White's entry into the field of aviation typifies his lack of prejudice where new technology was concerned. Aviation, still at a highly experimental stage, was from a commercial viewpoint a distinctly long-term proposition. Yet White, having watched Farman and Voisin biplanes flying during his visit to France late in 1909, evidently had no doubts as to the potential of aviation. The company's premises were at Filton, the northern terminus of the tramway system, where the tramway company had a depot for its taxis and its motor bus services into Gloucestershire.

A licensing agreement was concluded with the French aeroplane company Société Zodiac, and work began on an initial batch of six biplanes. White displayed his usual forthright methods in his dealings with the Société Zodiac. Its biplane was offered with a guarantee of airworthiness, but when the first model was completed and tested it proved underpowered and incapable of sustained flight. The Bristol-Zodiacs were immediately scrapped and British & Colonial successfully sued the Zodiac company for compensation.⁸⁹ The company then began production of an improved version of another French model, the Farman biplane. This became known as the Bristol Boxkite, and although it was soon superseded by more advanced designs it was a very successful aircraft which firmly established the company as a major manufacturer. In all about 80 Boxkites were built and sold.⁹⁰

White's new company differed considerably from other pioneering concerns. Most of the early manufacturers were engineers or enthusiasts who were still engaged in developing and testing experimental models. Some, notably the Short brothers, were beginning to produce planes for rich private customers. Few of them, however, shared White's ambition of building aeroplanes on a commercial scale, and none of them could rival his business acumen or contacts. He ensured that British & Colonial, like all the companies under his management, was adequately funded. This contrasted sharply with the experience of rivals, and it was proclaimed as "the first aeroplane company in the world to be

88. BRO, GWP, British & Colonial Aeroplane Co, Memorandum and Articles of Association, 19 Feb. 1910; *Daily Mail*, 17 Feb. 1910; *Bristol Times & Mirror*, 17 Feb. 1910.

89. British & Colonial Aeroplane Co., *Olympia Aero Show Catalogue* (1910); C.H. Barnes, 'Bristol and the Aircraft Industry', *Journal of the Bristol Industrial Archaeology Society*, V (1972), p. 5.

90. P. Lewis, *British Aircraft, 1809-1910* (1962), p. 133.

launched on a proper financial footing".⁹¹ Much of the company's success was due to the fact that White was able to borrow substantially (£180,000 in all by 1914) from the Western Wagon & Property Company. The issued share capital was regularly increased, to £50,000 in January 1911, £100,000 in December 1911, and £250,000 in February 1913.⁹²

As ever, White was fully aware of the importance of publicity. Leading pilots were encouraged to fly Bristol aircraft and the company organised flying demonstrations and participated in the races and competitions sponsored by Northcliffe's *Daily Mail*. To help create a market for its products the company set up flying schools, and by August 1914 nearly half the 650 qualified pilots in Britain had been trained by British & Colonial.⁹³ Neither were the military possibilities of Bristol aircraft overlooked. A Boxkite conducted the first airborne reconnaissance at Army manoeuvres on Salisbury Plain in September 1910, and the company also organised the first experiments with air-to-ground radio.⁹⁴ However, British & Colonial, receiving little encouragement from the War Office, began to look to foreign markets, demonstrating its aircraft in India, Australia, Spain, Italy and Germany. The first overseas order, for eight Boxkites, was agreed with the Russian government in 1910, and in all more than one-third of the aircraft produced between 1910 and 1914 was exported. Moreover, arrangements were made to produce Bristol designs under licence in Italy, Germany and France.⁹⁵ By the time of Sir George White's death in November 1916, British & Colonial was firmly established. The workforce at Filton had risen from 80 in 1911 to more than 550,⁹⁶ and the company had acquired an enviable reputation for good workmanship and innovative design. It went on to play a leading part in the war effort. The Bristol Fighter, possibly the

91. BRO, GWP, Bristol Tramways & Carriage Co., Annual Report and Accounts, 1910. *The Aeroplane*, 16 Feb. 1940, pp. 197, 199.

92. BRO, GWP, Western Wagon & Property Co., Register of Securities, 1882-1933; British & Colonial Aeroplane Co., Report of Emergency General Meeting, 18 Jan. 1911; 30 Dec. 1911; 10 Feb. 1913.

93. British & Colonial Aeroplane Co., *The 'Bristol' Aeroplanes* (1911), pp. 9-10, 19; *The Aeroplane*, 16 Feb. 1940, p. 200.

94. *The Aeroplane*, 16 Feb. 1940, pp. 197-9.

95. C.H. Barnes, *Bristol Aircraft since 1910* (1964), pp. 21-2, 52-3, 74. R. Higham and Sir P. Masefield, 'Sir George White' in D.J. Jeremy (ed.), *Dictionary of Business Biography*, Vol. V (1986), p. 782; Lewis, *British Aircraft*, p. 163. On the growth of civilian and military markets to 1914, see R. Miller and D. Sawers, *The Technological Development of Modern Aviation* (1968), p. 9.

96. BRO, GWP, Western Wagon & Property Co., Register of Securities, 1882-1933; B. Little, *The City and County of Bristol* (Wakefield, 1967), p. 295.

best Allied aircraft of the 1914–18 war, entered volume production shortly before White's death, and more than 3,500 were eventually produced.

When he died suddenly on 22 November 1916, the *Bristol Times & Mirror* commented that Sir George White “liked doing things which were calculated to endure, and he had the satisfaction during his lifetime of performing work which will afford lasting memorials of his generosity and foresight”.⁹⁷ Throughout his life, White remained closely attached to the city of Bristol, which had provided him with the opportunity to prosper. His most enduring legacy is the aircraft industry, which has been for many years the largest industrial employer in the Bristol region. His commitment to the Bristol Tramways & Carriage Company also had a major impact upon the lives of his fellow-citizens. He genuinely believed that he could provide a better transport system than the local authorities, and many Bristolians agreed with him. Certainly, the Council did not possess anyone with his business acumen, and its indecisiveness over the tramways purchase issue did not inspire confidence. Throughout his career he displayed great foresight, and he had a remarkably clear vision of how business affairs ought to be conducted. Without doubt, he was a major figure in the world of transport. The cogency of his arguments, coupled with his personal charm, made him a popular and respected figure with opponents and employees as well as business associates. His successes were many and he displayed a remarkable vigour and enthusiasm to the very end. His driving ambition and boldness in experiment were ideally balanced by hard-headed realism and sound judgement. It is these qualities that mark him out as one of Bristol's most distinguished businessmen of modern times.

97. *Bristol Times & Mirror*, 23 November 1916.

The Bristol Tramways System, 1876–1916

	Date of opening
Perry Road – Black Boy Hill	1875
Perry Road – St. Augustine's Parade	1875
Old Market – Eastville	1876
Perry Road – Old Market	1876
Old Market – St. George	1876
 Bristol Bridge – Totterdown (Three Lamps)	 1879
St. Augustine's Parade – Hotwells (Dowry Square)	1880
Bristol Bridge – Bedminster	1880
Horsefair – Horfield (Egerton Road)	1880
Old Market – Bristol Bridge (via St. Philip's Bridge)	1881
St. Augustine's Parade – Bristol Bridge (via Baldwin Street)	1881
Horsefair – St. Augustine's Parade	1888
 St. George – Kingswood	 1892
Stokes Croft – Ashley Road (Sussex Place)	1892
Horfield (Egerton Road) – Horfield Depot (Ashley Down Road)	1892
Bedminster – Ashton Gate	1896
Eastville – Fishponds (via Stapleton Road)	1897
Fishponds – Staple Hill	1897
Ashley Road – Stapleton Road	1898
Totterdown (Three Lamps) – Arnos Vale	1898
 Horfield Depot – Horfield Barracks	 1900
Bedminster – Bedminster Down	1900
Totterdown (Three Lamps) – Knowle	1900
Arnos Vale – Brislington.	1900
Zetland Road – Durdham Down (via Redland Green)	1900
 St. George – Hanham	 1900
 Horfield Barracks – Filton	 1907
Black Boy Hill – Westbury-on-Trym	1908

Sources: Bristol Record Office, 35810/GW/T, Bristol Tramways & Carriage Co. Reports and Accounts; 28787/1, Tramways Committee, Minutes; *Western Daily Press*, 1870–1908.

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